

ABSTRACT

A polymeric composite may be used for forming fluid separation membranes. The membranes may be formed from polyimide, polyamide or poly (pyrrolone-imide) materials. Polyamides may be formed by the condensation of a tetraamine, a tetraacid, and a diamine. Polyimides and poly (pyrrolone-imides) may be formed by the cyclization of a polymer precursor. A polymeric composite may include a dithiolene or a mixture of dithiolenes. A polymer matrix incorporating dithiolenes may exhibit an olefin/paraffin solubility selectivity. A solubility selectivity may be between about 1.1 and about 2.0.